



**UNITED STATES DEPARTMENT OF COMMERCE**  
**Patent and Trademark Office**

Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231

AS

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
-----------------	-------------	----------------------	---------------------

09/355,637 08/02/99 HAMMER

K 051009/0122

┌

IM52/1009

└

EXAMINER
----------

FOLEY & LARDNER  
3000 K STREET SUITE 500  
PO BOX 25696  
WASHINGTON DC 20007-8696

HON. S

ART UNIT	PAPER NUMBER
----------	--------------

1772

DATE MAILED:

10/09/01

7

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

## Office Action Summary

Application N .

09/355,637

Applicant(s)

HAMMER ET AL.

Examiner

Sow-Fun Hon

Art Unit

1772

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 13 July 2001.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-16 and 18-25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-16 and 18-25 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

***Response to Amendment***

***Rejections Withdrawn***

1. The 35 U.S.C. 112, 2<sup>nd</sup> paragraph rejections in Paper # 4, paragraphs 3-5 (mailed 02/13/01) of claims 3,5-7,9-12, 14, 17 have been withdrawn due to Applicant's amendment in Paper # 6 (filed 07/13/01).
2. The 35 U.S.C. 102(b) rejection in Paper # 4, paragraph 7 (mailed 02/13/01) of claims 1-9, 13 as being anticipated by Lim et al. have been withdrawn due to Applicant's amendment in Paper # 6 (filed 07/13/01).

***Rejections Repeated***

3. The 35 U.S.C. 112, 2<sup>nd</sup> paragraph rejection of claims 1-17 has been repeated for the same reasons previously of record in Paper # 4, paragraph 2 (mailed 02/13/01).
4. The U.S.C. 103(a) rejection of claims 1-17 over Higgins in view of Lim et al. has been repeated for the same reasons previously of record in Paper # 4, paragraph 9 (mailed 02/13/01).
5. The U.S.C. 103(a) rejection of claims 14-16 over Higgins in view of Lim et al. and Metzger et al. has been repeated for the same reasons previously of record in Paper # 4, paragraph 10 (mailed 02/13/01).

***New Rejections***

***Claim Rejections - 35 USC § 103***

Art Unit: 1772

6. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

7. Claims 18-23, 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Higgins (US 4,154,857) in view of Lim et al. (WO 93/19125).

Both references have been discussed in Paper # 4, paragraph 9 (mailed 02/13/01) and are rediscussed here for Applicant's convenience.

Higgins has a composition of collagen and polysaccharides extruded into tubular structures (film tubes) which may be used as casings for food products such as sausages (abstract). 2 to 30 weight % of glycerol is taught as a plasticizer (column 3, lines 14-17). 5 to 30 % by weight of non-collagenous fibers such as wood is taught (column 4, lines 5-8). Higgins teaches that the wood cellulose fibers have an average fiber length of about 0.04 inches (1 mm) (column 5, lines 29-48). Higgins fails to teach the claimed lubricant and the crosslinker.

Lim et al. have a starch and protein-based biodegradable thermoplastic composition that may be used to make extruded and molded articles. The composition comprises a crosslinked mixture of a native or modified starch in intimate admixture with a protein. A crosslinking agent is used to bind the starch and protein together (column 2, lines 20-31) in the amount of 0.1 to 5.0 weight % (column 7, lines 8-10), and can be aldehydes, dialdehydes, epoxides (column 6, lines 30-38). The plasticizer in the composition is in the amount of about 0.2 to 20 weight %, and can be glycerol, sorbitol and cellose methyl ether (carboxymethylcellulose) (column 7, lines 18-34). The lubricant can be in the amount of about 2 weight %, and can be diglyceride or vegetable oil (column 8, lines 1-14). The starch to protein ratio about 95:5 to about 50:50

Art Unit: 1772

(column 5, lines 19-32). The composition can further include a coloring agent (pigment)

(column 8, lines 34-37). The protein may be derived from animals (column 6, lines 3-9).

Lim et al. teach that the lubricant aids in the release of the molded article from the mold (column 8, lines 1-5) and that the crosslinker provides a rigid network structure which increased the water-resistance of the formed articles (column 17, lines 1-20).

Because Lim et al. teach that the lubricant aids in the release of the molded article from the mold, and that the crosslinker provides a rigid network structure which increased the water-resistance of the formed articles, it would have been obvious to one of ordinary skill in the art to have used the teachings of Lim et al. in the invention of Higgins in order to obtain an edible food casing with good mold release and increased water-resistance.

8. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Higgins in view of Lim et al. as applied to claims 18-23, 25 above, and further in view of Metzger (US 5,681,517).

Higgins and Lim et al. have been discussed above, and fail to teach the claimed film thickness.

Metzger has a casein film in the form of a planar film or a film tube especially suited for use in edible sausage casings (abstract). Metzger teaches that the film can have any desired thickness depending on the intended use, and give examples of thicknesses of from 0.1 to 1 mm for planar films, and 0.1mm to 0.3mm for film tubes (column 3, lines 30-35, column 5, lines 50-65).

Because Metzger teach that the film can have any desired thickness depending on the intended use of the edible sausage casings with the claimed thicknesses as examples, it would

Art Unit: 1772

have been obvious to one of ordinary skill in the art to have used the teachings of Metzger in the invention of Higgins in order to obtain a sausage casing with the desired thickness for the intended use.

***Response to Arguments***

9. Applicant's arguments in Paper # 6 (filed 07/13/01) have been fully considered but they are not persuasive.

a. With respect to the U.S.C. 112, 2<sup>nd</sup> paragraph rejection, Applicant argues that when natural starch is heated, it decomposes and cannot be extruded unless plasticized with glycerin. Applicant is respectfully reminded that natural starch is not in the present claims, and that the addition of glycerin during extrusion amounts to heat/chemical degradation. Applicant also argues that only the thermoplastics become softened upon heating and can be extruded, and not duroplastics. Applicant is respectfully requested to clarify the argument since it is unclear if Applicant means that the thermoplastics are thus plastifiable via heating.

b. With respect to the U.S.C. 103(a) rejection over Higgins in view of Lim et al., Applicant argues that Higgins is directed to an improved method of producing collagen products, namely a dewatering process and that Higgins explicitly requires collagen. Applicant is respectfully reminded that the claim limitations "biopolymer" and "extrudable natural protein" both read on the extruded collagen products of Higgins. Furthermore, Lim et al. teach that the protein may be derived from animals ('125, column 6, lines 3-9) and that the edible articles made from the extruded composition have a high level of water-resistance and physical strength ('125, abstract), thus providing the

Art Unit: 1772

advantage and thus the motivation to use the composition of Lim et al. in the invention of Higgins in order to obtain an extruded sausage casing which is edible with a high level of water-resistance and physical strength. Applicant also argues that the dewatering agents as taught by Higgins could likely not perform their intended function if the collagen matrix of the casing was replaced by a starch and collagen (protein) based matrix. Applicant is respectfully reminded that collagen is an animal protein.

### *Conclusion*

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.


Art Unit: 1772

Any inquiry concerning this communication should be directed to Sow-Fun Hon whose telephone number is (703)308-3265. The examiner can normally be reached Monday to Friday from 9:00 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Pyon, can be reached on (703)308-4251. The fax phone number for the organization where this application or proceeding is assigned is (703)305-7718.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-0661.

814  
10/03/07

  
HAROLD PYON  
SUPERVISORY PATENT EXAMINER  
1772

10/5/01